

CLAIMS

1. (Currently Amended) In a wireless communication system including at least one Packet Control Function (PCF) and at least ~~one~~ two Packet Data Servicing Node (~~PDSN~~) Nodes (PDSNs), a method for selecting a PDSN for packet data communications with a first mobile station (MS), the method comprising:
 - generating a record of unique PDSN Id numbers at the at least one PCF
 - communicatively coupled between the first mobile station and the at least ~~one~~ two ~~PDSN~~ PDSNs; and
 - selecting a PDSN in response to the number of PDSN Id numbers in the record.
2. (Original) The method of claim 1 further comprising: assigning a unique MS identification number (Id) to the first MS; and in which the selection of the PDSN is responsive to the first MS Id.
3. (Previously Amended) The method of claim 2 wherein the system includes n PDSNs, with each PDSN in the system having a unique Internet protocol (IP) address, in which the generation of the record of PDSN Id numbers includes creating a table with an ordered sequence of the PDSN Id numbers cross-referenced to the IP addresses.
4. (Original) The method of claim 3 in which the selection of the PDSN includes dividing the first MS Id by the number of (n) PDSNs.
5. (Original) The method of claim 4 in which the selection of the PDSN includes selecting the PDSN Id number equal to the remainder in the quotient, when the first MS Id divided by n .
6. (Original) The method of claim 5 further comprising: the first MS communicating with a first PCF to request packet data communications; in which the generation of the table of PDSN addresses includes the first PCF having a table of cross-referenced PDSN Id numbers and IP addresses; and in which the selection of the PDSN Id number includes using the table of the first PCF to calculate the PDSN Id number.

7. (Currently Amended) In a wireless communication system including a plurality of m Packet Control Functions (PCFs) and a plurality of n Packet Data Servicing ~~Node~~ Nodes (PDSNs) with unique Internet protocol (IP) addresses, a method for selecting a PDSN for packet data communications with a first mobile station (MS), the method comprising:

at each PCF, generating a record of PDSN Id numbers, wherein said each PCF is communicatively coupled between the first mobile station and one of the PDSNs;

assigning a unique MS identification number (Id) to the first MS; and

selecting a first PDSN Id number in response to the first MS Id.

8. (Original) The method of claim 7 in which the selection of the first PDSN Id number includes selecting the first PDSN Id number in response to the total number (n) of PDSN Id numbers in the record.

9. (Original) The method of claim 8 further comprising: assigning a first PCF to establish packet data communications between the first MS and a PDSN; and in which the selection of the first PDSN Id number includes the first PDSN Id number being selected, regardless of which PCF is assigned.

10. (Original) The method of claim 9 in which the generation of the record of PDSN Id numbers includes creating a table with an ordered sequence of the PDSN Id numbers cross-referenced to the IP addresses.

11. (Original) The method of claim 10 in which the selection of the first PDSN Id number includes dividing the first MS Id by the number of (n) PDSNs in the table.

12. (Original) The method of claim 11 in which the selection of the first PDSN Id number includes selecting the PDSN Id number equal to the remainder in the quotient, when the first MS Id divided by n .

13. (Original) The method of claim 12 further comprising: routing packet data communications between the first MS and the IP address corresponding to the selected PDSN Id number, through the assigned PCF.

14. (Original) The method of claim 13 wherein the first PCF is connected to a IP address corresponding to the second PDSN Id number, but not to the IP address corresponding the first PDSN identification number; and the method further comprising: reselecting an alternate PDSN Id number, after the first PDSN Id number has been calculated.

15. (Original) The method of claim 14 in which the reselection of an alternate PDSN Id number includes varying the first PDSN Id number, dividing that varied first PDSN Id number by n , and selecting the PDSN Id number equal to the remainder in the quotient.

16. (Original) The method of claim 15 in which the first PDSN Id number is randomly varied for the reselection of an alternate PDSN Id number.

17. (Original) The method of claim 15 in which the first PDSN Id number is varied by "1".

18. (Original) The method of claim 14 in which the reselection of an alternate PDSN Id number includes: removing the first PDSN Id number and associated IP address from the table; dividing the first MS Id by the number of PDSNs remaining in the table; and selecting the PDSN Id number equal to the remainder in the quotient.

19. (Previously Amended) A wireless communication system for communicating packet data, the system comprising:

- a first mobile station (MS) having a unique identification number (Id), the first MS having a transceiver for wireless packet data communications;
- a plurality of m Packet Control Functions (PCFs), each PCF having a port for packet data communications with MSs; and a port for packet data communications with an Internet protocol (IP) address;

a plurality of n Packet Data Servicing Nodes (PDSNs), each PDSN having a port for packet data communications with PCFs, a unique IP address and a unique identification (Id) number, wherein each PCF is communicatively coupled between the first mobile station and one of the PDSNs;
in which each PCF includes a table with an ordered sequence of the n PDSN Id numbers cross-referenced with the IP addresses; and
in which each PCF selects a first PDSN Id number for packet data communications with the first MS in response to the first MS Id.

20. (Original) The system of claim 19 in which each PCF selects the first PDSN Id number in response to the number of PDSNs represented in the table.

21. (Original) The system of claim 20 in which the PCF selects the first PDSN Id number by dividing the first MS Id by the number of (n) PDSNs in the table.

22. (Original) The system of claim 21 in which the PCF selects the first PDSN Id number by selecting the PDSN Id number equal to the remainder in the quotient, when the first MS Id divided by n .

23. (Original) The system of claim 22 in which a first PCF is connected to an IP address corresponding to the second PDSN Id number, and in which the first PCF is not connected to the IP address corresponding to the first PDSN Id number; and in which the first PCF reselects an alternate PDSN Id number, after the first PDSN Id number has been calculated.

24. (Original) The system of claim 23 in which the first PCF reselection of an alternate PDSN Id number includes varying the first PDSN Id number, dividing the varied first PDSN Id number by n , and selecting the PDSN Id number equal to the remainder in the quotient.

25. (Original) The system of claim 24 in which the first PCF randomly varies the first PDSN Id number for reselection of an alternate PDSN Id number.

26. (Original) The system of claim 24 in which the first PCF varies the first PDSN Id number by "1".

27. (Original) The system of claim 23 in which the first PCF reselects an alternate PDSN Id number by removing the first PDSN Id number and associated IP address from the table, dividing the first MS Id by the number of PDSNs remaining in the table, and selecting the PDSN Id number equal to the remainder in the quotient.